E.vii 2/p 33822/P 6596

Philoſophical Conjectures
ON
AEREAL INFLUENCES,
The probable Origin of
DISEASES:
With an unuſual CURE in the
SCURVY.

Addreſs'd to Dr. SHAW, *By* E—M—D L-TT-N. LITTON

Deſine quapropter, novitate exterritus ipſa,
Expuere ex animo rationem; ſed magis acri
Judicio perpende & ſi tibi vera videtur,
Dede manus; aut, ſi falſa eſt, accingere contra.
Lucret. Lib. II.

Fly no Opinion, Friend, becauſe 'tis new:
But ſtrictly ſearch; and, after, careful view:
Reject, if falſe; embrace it, if 'tis true.

As we have Opportunity, let us do Good unto all Men.
Gal. vi. 10.

LONDON:
Printed for THOMAS TRYE, near *Gray's-Inn-Gate,*
Holborn. M.DCC.XLVII.
(Price One Shilling.)

WELLCOME
LIBRARY
INSTITUTE

Philoſophical Conjectures
ON
Aerial Influences, &c.

UNembodied Spirits, and Beings of a ſuperior Claſs, may have an immediate Perception of the Eſſence of Things, may be able inſtantaneouſly to collect the moſt diſtant Ideas. But we, as looking through a dark and clouded Atmoſphere, diſtinguiſh by Marks, Characters, and Analogy; conſequently muſt be liable to Error Deception, and Confuſion, from the great Similitude of external Phaſes. Are not our Senſes fallible, their Informations unreaſonable, their Determinations unjuſt? Is not this manifeſt from the Figure, Motion, and Magnitude of Bodies? Has not this laid the Foundation of Scepticiſm, and ſtaggered the Reaſoning of the Curious and Inquiſitive?

Looking back into the Source and Original of Things, we ſhall find Inventions the moſt uſeful, important, and beneficial to Mankind, have been caſual and unlabour'd. We ſhall find the great, wonderful, and ſtupendous Diſcoveries of *Kepler*, *Galileo*, and *Newton*, owing to an optic Contrivance accidentally hit upon. Lands and Continents have been unexpectedly diſcover'd. Magnetic and Electrical Phænomena have ſurpriſed the Thoughtful and Contemplative. I omit the fatal Productions of Chemic Accidents, and a thouſand Things, whoſe fortuitous Exertion betrays their Properties, and indicates the Uſe. A Detail of theſe to you, Worthy Sir, intimately acquainted with the univerſal Hiſtory of Men and Things, muſt be needleſs, troubleſome, or offenſive *

The preſent Darkneſs of the human Intellect may proceeed, in ſome meaſure, from the Corruption and Degeneracy of the corporeal Organs; and theſe again from the unhappy Mutations of our ruinous Planet.

When the Life of Man, in a State of uninterrupted Health, was near a thouſand Years; when the ſpontaneous Productions were nearly ſufficient, † when a pure unmix'd homogeneous Æther ſubtilized the animal Juices, and rendered the nervous Fluid infinitely finer, con-

---

* *Theocritus* indeed aſcribes the Invention of Arts to Neceſſity. Ἀϖενία, Διόφαντε, μόνα τὰς τέχνας ἐγείρει
Αὐτὰ τῶ μόχθοιο διδάσκαλος———
Magiſter artis, ingenîque largitor.
Venter. Prol. Perſ.

† Mulcebant Zephyri natos ſine ſemine flores.
Ver erat æternum, placidique tepentibus auris

ſequently the intellectual Faculties proportionably ſtrong, vigorous, and ſprightly ; in Life, I ſay, thus circumſtanced, Nature might be examined, her Laws inveſtigated, and wonderful Diſcoveries effected.

But we, the Poſtdiluvian Race, as ſoon as landed on the unknown Shore of the World, find ourſelves oppreſſed with Want, and tormented with Pain.

Theſe damp the generous Sallies of audacious Youth ; theſe ſpoil the well weighed Projects of experienced Age. Add to this, the nobleſt Part of Man ſunk, ſtupified, and immerſed in animal Nature, Operations of the Soul entangled, and confuſed with various powerful and diſtracting Paſſions, whoſe imperious Dictates, and tyrannic Sway, are violent and uncontroulable, eſpecially till the animal and often intellectual Faculties are broken, ſpoiled, and debilitated.

Whatever might have been the animal or moral Advantages of Man in his Original and unlapſed State, the now viſible Infirmity and Imperfection in every Claſs of Creatures declares them not the finiſh'd, uncorrupted Make of an infinitely wiſe, good, and powerful Being. The Strength and Durability of antediluvian Bodies was preſently worn out or impaired; cloſely followed the Deluge; a ſurpriſing Deduction from human Life, no innate Strength, no Vigour of Conſtitution, nor ſtrricteſt Regimen, could retard the Flow of Life, or withſtand the deſtructive Influence of inconſtant Seaſons, a corrupted heterogeneous Air: Theſe are the Origin of human Maladies, and haſten the Diſſolution of all created Beings.

Such were the fatal Changes in the Earth and Atmoſphere, ſuch the fatal Conſcquences of the grand Cataſtrophe, that, aſſign what Degree you pleaſe of Fluidity in the vital Liquors, what Degree of Tenſion and Elaſticity in the animal Solids, chooſe the Diameters of the ſecretory Organs, ranſack Phyſic and Philoſophy for Rules and Medicines, yet ſtill our Expectations are fruſtrated, our Attempts are baffled; nothing will be found adequate, but a new Conſtitution of Things.

At different Periods of the Year are evident various Irregularities in the animal Oeconomy, which, tho' not cauſing Diſeaſes immediately mortal, the Conſequences may be laſting and dangerous: Sometime immerſed and ſteeped in Water, our Solids grow lax, our Fluids vapid, the intellectual Powers veiled and obſcured, attended with Confuſion, Deſpondence, and inſupſupportable Melancholy; Effects too viſible in the Nervous, Studious, and Sedentary. Again, the Fibres frozen and conſtringed, the Blood condenſed and briskly accelerated, may yield a temporary Gaiety and Sprightlineſs; yet theſe Advantages from Fermentations and Reſolutions, occaſioned from an enſuing Thaw and Warmth, are infinitely preponderated by Diſeaſes of the moſt malignant Nature, or Dejection of Mind the moſt frightful and intolerable. Such are frequently the Combination or Succeſſion of Seaſons, as muſt neceſſarily render our Medium peſtiferous and unhealthful,

Intempeſtivis pulviiſque & ſolibus icta.
Lucret.

From the Concurrence of Hiſtory, whether natural, ſacred, or profane, from the Contemplation of the Site, Poſition, and Orbit of our Earth, from the diſcordant and inharmonious Combination of Elements, the diſorderly and irregular Range of the component Strata, with other numberleſs Marks of Deteriority, particularly in the intellectual and moral World, a Conjecture is drawn, bold indeed, but not altogether groundleſs and improbable; *viz.* That all the Beings, whether ſentient or intelligent, that ever were or will be upon the Face of the Earth, thus modified, are for ſome anterior Lapſe, confined and fettered in this Planetary Priſon, and are now in a State of Purgation, Expiation, and progreſſive Perfection.

Yet, thro' the whole Syſtem of inanimate Beings, notwithſtanding our Lapſe from original Purity and Virtue, are the moſt evident Veſtiges of providential Care, a wonderful Commixture of Kindneſs and

Severity, intended, no doubt, for our Preſervation and Correction, and this often effected by a Counteraction of Cauſes, ſingly deſtructive to the whole animated Race.

From Fermentation, Corruption, or Putrefaction, are generated Salts, the moſt violent, alkaline, and pernicious; which, diffuſing around Contagion, and mortal Sickneſs, muſt preſently render the Earth barren and uninhabited, a Scene of Woe and Deſolation, if not diſſipated, diſſolved, and precipitated, by Winds and Rains; and then may not only ſerve the Purpoſes of Vegetation, but perhaps by various Tranſmutations may be converted into neceſſary Elements, or perhaps the vital Pabulum.

The Experiments of *Boyle*, and Phænomena of *Halley*'s Engine, render it probable, that ſome Principle reſides in the Air, neceſſary to

Life and Flame; for tho' the Elaſticity remain, ſo as to carry off the fuliginous Steams; yet, upon a Conſumption of this viviſying Something, the vital and common Flame are with Difficulty preſerved; and as there muſt be a perpetual Conſumption of this animating Matter, it is neceſſary it be ſome-how repaired, from the univerſal Rounds of Generation and Corruption. Ἡ τοῦδε φθορὰ ἄλλου γίνεσις, ἡ τοῦδε γίνεσις ἄλλου φθορά' *Ariſt. Lib.* 1. *de Gen. Corrupt.*

The Air ſeems to be a Chaos of infinite and numberleſs Materials, the common Seminary of enlivening Principles, every-where impregnated with the Particles of ſubjacent Mines and Minerals; the active and volatile Parts of poiſonous and ſalubrious Plants; every-where replete with a Variety of Seeds, Eggs, and Animalcules; which, tho' latent in their wandering and unſettled Condition;

dition; yet the Seeds fertilizing the Virgin-Earth, and the others lighting upon, fixing, and adhering to a proper Matrix, afford ſpontaneous Productions, and Generations ſeemingly equivocal.

All the Bodies in Nature, of whatever Contexture, emit Effluvia; and in different Seaſons, or Places, have a greater or leſs Degree of Exhalability, proportionable to ſubterraneous or aereal Cauſes. Evaporations, Avolations, and Diminutions, are perceptible in the lax and volatile; and Cauſes or Effects, Impreſſions or Alterations, ſenſible and manifeſt, are only deducible from the firm and ponderous. Deſcending into the ſubterraneous Caverns, we find Agents the moſt violent, firy, and ungovernable, whoſe Coalitions and Colluctations rend, ſhake, and threaten univerſal Diſſolution; we find Steams that deſtroy, corrode,

or

or ſuffocate, in an Inſtant. *Stygian*, peſtiferous, and indeterminable Compoſitions have iſſued out of the Earth, ſpread ther Malignity, and depopulated half the Globe. The Dews are ſometimes volatile and exploſive, again poiſonous and mortal. It is certain, whatever might have been the ſalutiferous Reſtrictions of Motion, there is an abſolute Neceſſity for a Contrariety of Action, the Reſult of which muſt be Diſſolution and Decay.

The Meteors and Exploſions of the Atmoſphere, the ſurpriſing Velocity and Penetrability of aereal Fire, ariſe from the Actions of terreſtrial Emiſſions, of infinite Tenuity, and ſpecific Gravity, inconceivably ſmall. But in minute Bodies what are the Laws of Motion? what are their Attractions, Repulſions, and Coheſions? Is there not an attractive Force greater than that by which the Squares of their Diſtances decreaſe?

Several modern pretended Diſcoveries were well known to the ancient Philoſophers. In their Speculations, whether natural, moral, or metaphyſic, are Veſtiges of the profoundeſt Thought, ſcarce derivable from human Reaſon, and the Light of Nature; particularly their Knowledge of our lapſed State, the λύσις, the φυγὴ, an Account of the Creation coincident with the *Moſaic* Hiſtory, and ſomething like our Doctrine of the Trinity: Theſe certainly muſt be the Remains of primeval Tradition, or immediate Revelation. That the Generation of Animals was from a Diſtention, Evolution, and Repletion, is only a modernized Opinion. The *Pythagoreans* and *Platoniſts* knew the true Syſtem of the World: Some taught the Stars were firy Worlds;

others, that the Moon was habitable; others, that the Planets were opake Bodies revolving round the Sun. *Pythagoras* (as *Gregory* has ſhewn) knew that the Gravities of the Planets were reciprocally as the Squares of their Diſtances. That congenial Things approach, and diſſimilar recede, was the Foundation of *Hippocrates*'s Philoſophy, probably learnt from his great Maſter or Contemporary *Democritus*, who firſt divulged the Doctrine of Atoms, the Fruit of his *Aſiatic* Travels, to the Conjunctions, Unions, and Combinations of which *Epicurus* aſcribes the Formation of the World*, *Plutarch de Placitis Philoſoph.*

---

* But a vaſt Heap; and from this mighty Maſs
Each Part retir'd, and took its proper Place;
Agreeing Seeds combin'd, each Atom ran,
And ſought his Like, and ſo the Frame began.
From diſagreeing Seeds the World did riſe,
Becauſe their various Motions, Weight, and Size,
And Figure, would not let 'em all combine,
Together lie, nor friendly Motions join:
Thus Skies, and thus the Sun firſt rais'd his Head:
Thus Stars, thus Seas o'er proper Places ſpread.
Lucret. Lib. V.

Not only in animal Nutrition, but upon every Occaſion, he introduces this Attraction into the animal Oeconomy. In the Sixth of *Epidemics*, illuſtrated by *Galen*'s Interpretation, are theſe Words, Σαρκὸς ὁλκὴ καὶ ἐκ κοιλίης, καὶ ἔξωθεν· δηλὸν, ἡ αἴσθησις, ὡς ἔκπνοον καὶ εἴσπνοον ὅλον τὸ σῶμα. " The " Fleſh draws both from the Belly " and from without; and it is mani- " feſt to the Senſes, that the whole " Body both expires and inſpires," *Galen de uſu pulſuum.* Μεταλαμβάνουσι δ᾽ εἰς ἑαυτὰς ἐκ τοῦ περιέχοντος ἡμᾶς ἀέρος οὐκ ὀλίγην μοῖραν· καὶ τοῦτ᾽ ἔστι τὸ πρὸς Ἱπποκράτους λεγόμενον, ὡς ἔκπνουν καὶ εἴσπνουν ἐστὶν ὅλον τὸ σῶμα. " But they" (the Pores or Extremities of the Arteries) "draw " no ſmall Part from the ſurrounding " Air: And this we find in *Hippo-* " *crates*, that the whole Body both " expires and inſpires."

Hippocrates not only eſteems the Air the Author of Life and Diſeaſes to mortal Men, but to this aſcribes the different Shapes, Complexions, Genius, and Government of different Nations. Moderate Heat and Moiſture, in the fertile Regions of *Aſia*, render the animals large and comely. But, from the Mildneſs of the Climate, their Diſpoſitions are ſoft and cowardly, impatient of Labour and Hardſhip. The *Aſiatics* are weak, daſtardly, and ſervile, eaſily ſliding into Monarchies; with Reluctance they leave their Eaſe and Families, and hazard their Lives for tyrannic Maſters. On the other hand the *Greeks*, and northern *Aſiatics*, are bold, hardy, and warlike; without Compulſion they quit their Eaſe, and voluntarily expoſe themſelves to Toil and Danger, animated with the Hopes, and rewarded with the Fruit of Conqueſt.

The Truth of this depends, not only upon Authority, or ancient Opinion, but is ſufficiently evinced from Reaſon and Fact. So great, variable, and effective, is the Preſſure of the circumambient Fluid, that the Æquilibrium, deſtroyed by an interrupted Communication, muſt preſently extinguiſh both animal and vegetable Life. So great is the ἐλατὴρ or Spring of the Air, that, without the leaſt adventitious Heat, it is capable of poſſeſſing above 13000 times its natural Space or Dimenſions. The expanſive Centrifugal Force, by which its Parts endeavour to recede, are in a reciprocal Ratio of their Diſtances, or in a direct ſubtriplicate Ratio of their Denſities *; but as the Air excites a moſt violent and rapid Motion in the Fire, the Fire rarefies, and increaſes the expanſile Force of the

Air

---

* *Newton.* Princip. Lib. II.

Air to above twenty thouſand times its natural State.

Hence the wonderful Effects from the irreſiſtible Spring of heated, rarefied, and impriſoned Air.

Not to mention the more obvious Phenomena of Rarefaction *, the learned Jeſuit *Cabæus* ſays, He ſaw a Marble Pillar ſo vaſt, that three Men with diſplay'd Arms could not embrace it, and a thouſand Yoke of Oxen drawing ſeveral Ways could not have torn it to pieces, quite broken off in the midſt by ſome Wood burnt by the Pillar; the Heat proceeding from the neighbouring Fire ſo rarefied the Air or ſpirituous Matter ſhut up in the Cavities of the Marble, that it broke thro' the ſolid Stone for Room to expand.

As in the Compoſition of all Bodies, animate or inanimate, there is wrought up a certain Quantity of Æther, or elaſtic Fluid, capable of Condenſation or Expanſion proportional to the acting Force, 'tis eaſy to ſee, were the Ingreſs or Egreſs conſiderably hindred, that Bodies, particularly animal, would be ruptured and torn in pieces by the confined Fluid. Upon the Aſcent of high Mountains, diminiſh'd Preſſure of the Atmoſphere, or even the Heat from a common Fire, as the animal Fibres are vaſtly extenſible, and Fluids rarefiable, the Effects ought to be much more ſenſible and important.

---

* Mr. *Boyle*.

The Preſſure of the Air upon a human Body being equal to a Column of Mercury, whoſe Altitude is thirty-two Inches, and Baſe equal to the Surface of the Body; then ſuppoſe the Preſſure to be 32,000 Pounds, as we find there are Diminutions of one Tenth, or even Variations ſometimes greater, the Conſequence muſt be Diſtentions, Rareſactions, and Efferveſcence, ſuch as would immediately terminate a miſerable Life. Yet, notwithſtanding the Utility of this general and extenſive Law, there are ſome, the Formations of whoſe Parts are ſo unhappily contrived, that, upon a ſudden Deſcent in the Barometer, Turgidity, Flatulence, and Dejection, moſtly enſue.

Tho' the Air, or other ethereal Matter, thus pervading the Pores, and traverſing the inmoſt Receſſes, will in time ſpoil the Elaſticity, and ſhake the Continuity; there are certain *Miaſmata*, continually flying ἀπὸ τῶν σωμάτων ἐπιπολῆς *, of infinitely more Prejudice. Thus it was a laudable Cuſtom among the *Romans*, and worthy the Humanity, Benevolence, and Policy of that great People, to carry their Dead

---

* Laert. Lib. II.

(as the *Athenians* did to the κεραμικὸν) without the Precincts of the City.

> *Experiar quid concedatur in illos,*
> *Quorum Flaminia tegitur cinis atque Latina.*
> Juven.

The Reaſons of which were, according to *Gyraldus*, not only to inſpire the *Viatores*, to whom the Inſcriptions were addreſſed, with the Principles of Virtue, Honour, and a Love of their Country; but to preſerve the City free and untainted with noxious and putrefactive Exhalations. The divine Edict, *Deut.* xxiii. 12, 13. was equally beneficial and preſervative.

In *Grand Cairo* the Number, Poverty, and Filthineſs of the People, the Nearneſs of the Houſes, and Situation of the Place, naturally concur. The exceſſive and untemper'd Heats exalt the putrefactive Ferments, and impregnate the Air with the moſt virulent Atoms. This Magazine of Corruption annually ſupplies a Plague *; which rages moſt unmercifully, till its Fury is check'd or abated by the Winds and Inundations, which purify the Air, and carry off the νοσερὰς ἀποῤῥοίας.

In *Ethiopia*, and ſeveral Parts of *Africa*, the indigenous and mortal Diſeaſes are moſtly thought to ariſe from the Corruption of vegetable and animal Subſtances; often from the incredible Swarms of putreſying Locuſts, the exceſſive Intemperance of the Climate heightening the Malignity. But *Monſ. Mezeray* ‡ informs us, that the Plague, which happened in *France* 1346, the moſt univerſal and fatal ever known, began in the Kingdom of *Cathay*; a Vapour, the moſt inconceivably fetid, iſſuing out of the Earth, like a ſub-

---

[*] Le Brun's Voyage au Levant.
Proſper Alpinus.

[‡] Hiſt. de France, Tom. 1. p. 798.

a ſubterraneal Fire, laid waſte the greateſt Part of that Country; and, paſſing through *Europe*, *Aſia*, and *Africa*, made ſuch diſmal Havock, as was ſuppoſed to have diſpeopled Half the Globe.

Tho' the Situation aſſigned us by indulgent Heaven is free from the Inclemencies of Seaſons, the Malignity of Elements, and mortal Poiſons peculiar to ſome Climates; tho' we neither feel the ſcorching Heat of an *African* Soil, nor piercing Colds of a polar Region; yet we, in ſome meaſure, participate of aereal Ills; our Medium abounding, as appears from the Tarniſhing and Corroſion of Metals, with Salts of an unknown Nature, which may have a wonderful, tho' unheeded Operation upon the nice Contexture of human Bodies.

To ſay, Authors and Hiſtorians have look'd upon Infection * as a general Characteriſtic of the Plague, to mention how quick the peſtilential Effluvia, or infected Blood and Juices, operate upon Men and Brutes ||, may be equally needleſs. But as by Infection ſurely is meant the Admiſſion of certain malignant Corpuſcles, which raiſe violent, and often mortal Perturbations in the animal Oeconomy; from Analogy alone, notwithſtanding the extreme Subtilty of theſe poiſonous Particles, we might have ſafely conjectur'd, that the Effluvia alone of medicinal Subſtances, in ſome Degree exert their ſpecific Operations, as Cathartic, Cordial, &c.

---

* Ὅτι ἕτερος ἀφ' ἑτέρου θεραπείας ἀναπιμπλάμενοι, ὥσπερ τά πρόβατα ἔθνησκον ——— εἴτε προσίοιεν, διεφθείροντο, καὶ μάλιστα οἱ ἀρετῆς τι μεταποιούμενοι.

Thucydides, on the famous *Athenian* Plague.

Aut deſerti aut neglecti qui incidiſſent morerentur, aut aſſidentes curanteſque vi morbi repletos ſecum traherent. Livy.

|| Fracaſtorius, Diemerbroek, Diſſertation ſur la Contagion de la Peſte.

&c. tho' leſs perceptible Effects [*] had warranted the Concluſion.

As different Climates have different Animals, Foſſils, and Vegetables, different Degrees of Heat and Moiſture, to diſſolve, extract, and exhale, ſo every Country and Seaſon has its peculiar Influence and Malady. In Spring, when the Principles of Life and Vegetation, when the various Salts and Oils long condenſed and impriſoned, are attenuated, warmed, and exhaled, when free Streams of animal Perſpiration have cleared, opened, and dilated the cutaneous Outlets ; then is the Body moſt pervious and ſuſceptible, then are the Effluvia moſt active and powerful.

From the Quantity or Quality of Exhalations [†] and Perſpiration of Plants and Animals, there ſeems an

abſolute

---

[*] Ld. *Verulam*, Mr. *Boyle*, *Ramazini*.

[†] See *Halley* Philoſ. Tranſact. and the accurate Dr. *Hales*'s Vegetable Statics.

abſolute Neceſſity, why they ſhould be thrown off to vaſt Diſtances in the boundleſs Expanſe. There are ſeveral Purpoſes only to be anſwered in the remote Regions, where theſe Bodies, after various, irregular, and confuſed Motions, may ſometimes, by planetary or ſolar Influence, be determined to their native Soil; or ſometimes, in the celeſtial Spaces, ſtraying beyond the Limits of Attraction, may by a repulſive Force fly off, and wander in the attractive Spheres of other Planets, till ſome accidental Cauſe, Combination, Alteration, or radial Influence, ſettle the reſtleſs Wanderers in ſtrange Abodes.

The Planets and Satellites, from their mutual Actions, ſuffer various Irregularities. The Moon, influenced only by the Earth's Attraction, would, by a Ray from the Centre of the Earth, deſcribe equal Areas in equal

Times ; and about our Planet, in one of its Foci, deſcribe an Ellipſe, whoſe Plane would be immoveable, and Inclination to the Planet of the Ecliptic perfectly invariable. But from the ſolar Action ariſe theſe and various Aberrations. The Moon diſturbs the Motion of our Earth, as is evident from correſponding Tides ; when ſhe comes to the vertical Point, there, and in the Place diametrically oppoſite, the Water riſes, ſwells, and fluctuates.

Notwithſtanding the viſible Utility of this Satellite, in reflecting Light, agitating the Sea, which without it muſt unavoidably degenerate into a *Memphitis*, and ſtegnant Waters become poiſonous and baneful, or other Neceſſity of its Exiſtence in the Arrangement of celeſtial Beings ; its Effects or Operations upon rational or irrational

Animals are much more ſecret and unintelligible.

The Prince of Phyſicians has indeed let an Ocean of Light into theſe dark Regions; infinitely more than could have been expected, unleſs the Action of the Nerves had been better underſtood, or the ingenious Authors that have writ upon the Æther, Electricity, or Cauſes of Gravitation, had given, or rather the Nature of theſe intricate Subjects admitted of, more ſatisfactory Explications. Then indeed we might have had more certain rational Accounts of epidemic Diſeaſes, the inſtantaneous and mortal Effects of Steams, Damps, and Lightning.

The Moon may have a very powerful Action upon our Atmoſphere; ſeveral Cauſes may prevent the Subſiding of the Barometer. But if the endleſs Phænomena of this Inſtrument be inexplicable on all known Principles, if the Objections to *Halley*'s Hypotheſis be weighty and reaſonable, *Leibnitz*'s abſolutely falſe, and other Solutions defective and exceptionable; where ſtand our Conjectures, Reaſonings, and Concluſions, founded on uncertain *Data*?

Whether the Comets (as they have been called), theſe Meſſengers of Fate, are appointed, by the God of Nature, to demoliſh old Worlds, and ſupply Materials for new, or carry the Damned thro' the Extremities of Heat and Cold, or whether they may be beneficial in repairing aqueous nutritive Conſumptions, and diffuſe a re-vegetating regenerating Moiſture through the planetary Regions; it is not improbable, but Bodies of ſuch a Magnitude, heated to ſuch a Degree, conſequently having the Salts, Oils, metalline, or other durable Principles, proportionably rarefied and exalted, may repel Atoms of different Natures, the *Semina* of Diſeaſes, to vaſt Diſtances in the boundleſs Space, which, though not immediately deſcending through our Atmoſphere, in ſome time may, by a radial Impulſe, an unlucky Poſition, be reflected on our Planet.

The Comet in 1680 was ſuppoſed 2000 times hotter than red-hot Iron; which, if of the ſame Magnitude with the Earth, muſt require a Million of Years to cool. And the inferior Planets (particularly *Mercury*), according to the *Newtonian* Calculation, muſt be exceſſively heated; the ſolar Fire, at that Diſtance, muſt ſeparate, diſunite, or diſſolve almoſt the compacteſt Matter we are acquainted with. And it is probable, during their various Fermentations, Fuſions, and firy Purgations,

tions, groſs, febrile, and miſchievous Atoms may fly off irregularly, or periodically, in all manner of Directions.

Should theſe Emiſſions be unluckily directed, the vigorous Action of the Sun may powerfully propel them, and at the ſame time a greater Quantity of aqueous and other riſing Vapours deſtroy their Virulence and Energy: Yet, when the Atmoſphere becomes unuſually rare (which is conjectured to be ſo at particular Periods of the Moon), and when the Quantity of Exhalations is vaſtly diminiſh'd, however leſs crouded, to ſay nothing of unknown Attractions and Repulſions, their Deſcent with unabated Fury may be wonderfully facilitated.

There is a certain Peculiarity in the Fluids, either as to the Proportion of the Principles, or Method of Compoſition; not only in Animals

mals of a different Species, but even among the human Race: No two Perſons are equally affected with the ſame Food or Phyſic; what poiſons Man, and ſeveral Kinds of Animals, to others proves wholſome and nutritive; what has raiſed violent, mortal, and epidemic (pardon the Expreſſion) Fevers in the Conſtitution of Brutes, has not only been unfelt by Men, but even different Species of the ſame Claſs. In foreign Countries, where People of all Nations reſort, ſettle, and have an unſcrupled Communication, peſtilential Diſeaſes have ſometimes been limited to the Natives, ſometimes to the Strangers. Yet Idioſyncraſies, and nervous Differences, are infinitely more wonderful; *e. g.* that the Smell of a Roſe ſhould be grateful and viviſying to one, diſagreeable and deadly to another.

We have ſeen Diſeaſes of the Lunatic, Epileptic, Hypochondraic kind, attended with Spaſms and Convulſions, Throes, and temporary Inflations, whoſe Force, Violence, and Impetuoſity, might almoſt argue ſulphureous, vitriolic, and ferrugineous Mixtures, perhaps from the Principles of animal and high-ſeaſoned Food alone, but rather ſome extrinſic Matter mixing, and more eaſily fermenting, where ſuch Salts abound: We know ſuch Particles exiſt; we know they may paſs the *Vaſa inhalantia*; we know they may raiſe Ferments, notwithſtanding the pretended Authority of the great * *Borelli.*

Fermentation, Putrefaction, or inteſtine Motion, certainly obtain more in the animal Functions, than has been generally believed.

---

* Propoſ. 222, 223, 224.

Upon what Principles muſt we account for the Colour, Warmth, and Fluidity of the Blood? Does the Attrition of the Solids raiſe a proportional Degree of Heat? May not a ſmall Pulſe be attended with extreme Heat, or a full Pulſe with intenſe Cold? Upon weighing or meaſuring the arterial Branches, at different Diſtances, we find all the Arteries are one truncated Cone, the leſſer Baſe terminating in the Heart, the greater in the Extremities of the Arteries; conſequently the Momentum of a Fluid paſſing thro' any given Section will be as the Velocity or Section inverſely.

This one Truth overturns ſome ſpecious Theories, founded on ſome miſtaken or unlucky Expreſſions of the famous * *Bellini.*

---

* Propoſ. 27.

In homogeneous Liquors, as Water and Oyl, no Motion or Concuſſion ever received a perceptible Warmth; and in the human Body it appears not that the Blood and Veſſels have the Properties requiſite for the Production of Heat. Are the moving Parts hard and dry? the Volocity ſufficient? or vaſculer Fibres diveſted of Fat and Mucilage? But as there are Proceſſes where the Ingredients will not ferment without ſome Motion, it is probable the Arteries, by ſhaking and mixing the heterogenous Principles of the Blood, may raiſe the animal Effervеſcence, which will continue in ſuch a State as is neceſſary to Life and Health, while the Degree of Motion, and firmentative Ingredients, are duly adjuſted.

But, to leave theſe unfrequented Paths of Speculation and Conjecture; it is certain every Country abounds with Plants, Minerals, and Exhalations peculiar to itſelf; and as moſt may be denominated friendly or inimical to the human Conſtitution, upon this Principle, it is eaſy to ſee how indigenous Diſorders ariſe; how the Air of one Country cures the Diſeaſes of another; how not only the Conſtitution of the Body, but the very Frame and Temper of the Mind, may be alter'd. In *Hungary*, among the Cinnabarine, and ſome other Mines, the Travellers obſerve their Blood accelerated, Conceptions clearer, Imagination more lively; and, immediately paſſing to another Soil, an univerſal Relaxation, Ideas gloomy, confuſed and indiſtinct. Thus the Diſcovery of Arts and Sciences may, in ſome meaſure, depend upon the Seaſon and Climate; ſome ſucceeding beſt, where a Sprightlineſs of

Fancy, others where great Application of Mind, is required.

If in Miners, and ſeveral Kinds of Workmen, the very Materials about which they were employed, upon a Diſſection, are found in their Veſſels; if in a few Months the *Damnati ad metalla* *, become vertiginous and paralytic; can it be thought the moſt volatile and active Oils ſhould be denied an Entrance; or is it probable, mixing immediately with the Blood, they ſhould have no Effect? Is it not needleſs to quote Naturaliſts and Travellers, to quote what every one muſt have obſerved, that in ſtanding, walking, or ſleeping, under ſeveral Kinds of Trees, he has found himſelf variouſly affected?

The celebrated *Boerhaave*, by the Steams of a Vegetable, procured Eaſe,

---

* Sennertus. Fallonius de Metall. & Foſſ. Etmull. de Miner. Philoſ. Tranſact.

Reſt, and Sleep, when all other Medicines had been adminiſterd to no Purpoſe. Sir *Theodore Mayern* * ſays, the *Succiſa* is an incomparable Antidote for Poiſons, the Plague, or any malignant Fever; the Patient being laid upon a Bed of this Plant, moderately warm, it proves a powerful Sudorific, and preſently relieves. Thoſe, whom long and tedious Indiſpoſitions had brought to the laſt Stage of Life, have, by the Effluvia of young, ſound, and healthy Animals, been ſurpriſingly recruited, ſtrengthened, and invigorated.

The Traveller frequently returns with all the Symptoms of a *Cauſus*, or burning Fever, afflicted with intollerable Pain, *Delirium*, and inextinguiſhable Thirſt: Effects too dreadful to be merely the Produce of Heat and Toil. But if, after the violent Exerciſe of Riding, or any other laborious Employment, notwithſtanding the vaſt Expence of *Materia perſpirabilis*, and no Food taken, the Body, by exact ſtatical Experiments, is found heavier by many Ounces, perhaps ſome Pounds, it not only follows, that the Quantity of *Sanctorian* Perſpiration is indeterminable, but renders it probable, that the *Inhalata* ſo numerous, conſiſting perhaps of ſome poiſonous narcotic Materials, without any previous Digeſtion, Dilution, or Envelopment, may cauſe Fevers of the moſt malignant Kind.

---

* Philoſ, Tranſact.

In the Space of one Night Fevers, Colds, Fluxes, and other Diſorders, have become epidemic; Effects too extenſive to be owing to private Irregularities. And it has been obſerved, in Summers remarkably hot, or wet, Winters mild, or extremely cold, and all imaginable Degrees of Heat, Cold, Moiſture, and Dryneſs, in every Seaſon, yet the Inhabitants have ſuffered very inconſiderably in their Health; which ſeems to prove ſomething elſe than the Seaſon is neceſſary to create an unhealthy Conſtitution.

Salts, which float and ſaturate the aereal *Medium*, and, tho' diſſolved, and uniformly mix'd by a proper Degree of Heat, ſeparate, cryſtallize, and ſpeedily precipitate upon enſuing Cold. Corpuſcles, innocent when exhaled, by miſchievous Unions may acquire a malignant Nature; others, poiſonous when aſcending, have their Virulence abated; and even Poiſons counteract Poiſons. Theſe Truths, from Chemic Experiments, are ſufficiently evident.

Obſtructed Perſpiration has been generally eſteemed the Cauſe of Coughs, Colds, Fevers, and numberleſs Complaints: But the Univerſality of this Doctrine, from the nice ſtatical Examination of the learned and ingenious Dr. *Keill*, appears abſolutely erroneous: Either Perſpiration is not obſtructed at all; or other Secretions are proportionably inlarged; or, allowing a Suppreſſion, it is ſuch as can produce no ſignificant Effect: Conſequently, in what is call'd catching of Cold, we are obliged to allow at leaſt as probable, that the Air acts not by cloſing the excretory Ducts, and ſtopping the tranſpiring Matter; but that certain ſaline, nitrous, frigorific Particles alter the Quality of the Fluids.

Cold, according to the *Gaſſendians*, may be owing to the nitrous aereal Particles, and not a bare Privation; as Sal Ammoniac, Nitre, and ſeveral volatile alkaline Salts, mix'd with Water, render it more intenſely cold.

An Introduction of ſaline, nitrous *Moleculæ* into the Inteſtines of the Globules of a Fluid, when brought within the Spheres of their mutual Attraction, muſt neceſſarily cohere; and, being every-where diſperſed thro' the Fluid, it muſt be converted into one ſolid conſiſtent Maſs, till Heat diſſolves the Coheſion, by breaking the ſaline *Spiculæ*, and removing the component Particles out of their mutual Contact, or Sphere of Attraction; in which Condition the Body reaſſumes its uſual Form.

The Intromiſſion of this foreign Matter dilates and ſwells in ſome Bodies to near one Tenth its Bulk; Water, when frozen, expands, till it burſts the ſtrongeſt Confinements. *Olearius* at *Moſcow* aſſures us, the Earth cleft near a Foot in Breadth.

In 1708, was the greateſt Froſt known in the Memory of Man;

not only Animals, but Plants and Trees, ſeem'd to have a kind of Gangrene, effected by a corroding Salt. There is certainly a great Analogy between the Diſeaſes of Plants and Animals: Both conſiſting of Solids and Fluids, and Circulation eſſential to both, muſt neceſſarily be liable to Obſtructions, and the fatal Conſequences. The nitrous, aereal Salt, fixing the Fluids, and ſtopping the Circulation, ruptures the vital Canals, and deſtroys both vegetable and animal Oeconomy.

Scorbutic Diſorders are natural to the Situation of ſome Northern Countries, remarkably where the Moiſture of the Air relaxes the animal Solids, and facilitates the cutaneous Immiſſions. Theſe Corpuſcles, which fix Water, and fluid Bodies, not only deſtroy the Fluidity of the Blood, but, crouding in great Numbers into the Extremities of the fineſt and ſmalleſt Pipes by the attractive Faculty, unite, cryſtallize, and form themſelves into large Volumes, which, aſſiſted by the *Vis propellens* of the fluent Blood, being hard, angular, and deletorious, miſerably diſtract and dilacerate the tender Veſſels: The Fluids, now ſtagnant without the Laws of Circulation, corrode the contiguous Parts, and form Ulcers, Scabs, and Blotches, painful and dangerous, according to the Degree of Virulence and Putrefaction.

The *Lepra* or *Elephantiaſis* was perhaps the moſt frequent in theſe Countries, which abounded moſt with the Effluvia of a nitrous or ammoniacal Kind; Theſe Salts, in the hot Countries of the Eaſt, or other Places under or near the Equatorial Regions, may be exhaled in ſuch Quantities, as, when diſperſed, to ſupply the whole Globe with ſaline

Corpuſcles, which probably may be the aereal Nitre talk'd of by the Philoſophers. The Effluvia raiſed under the Equator, being carried to the Top of the Atmoſphere, will neceſſarily move towards the polar Parts, not only becauſe the ſuperior Current of the Air from the Equator is that Way, but we know by Experiment, that whatever ſwims upon a Fluid revolving about an Axis, will be carried towards that Axis: Theſe may be thus brought to the polar Regions, and after by various Winds diſperſed over all Lands and Continents of the habitable World.

The aereal Salt, not in Quantity ſufficient to deſtroy the excretory Organs, by mixing with the Blood, may gradually alter, ſpoil, and coagulate the Juices; particularly where the Velocity of the Blood is vaſtly diminiſhed, without exhibiting any cutaneous Foulneſſes, or external Symptoms of a ſcorbutic Taint; but the *Viſcera* may in ſeveral Parts be obſtructed, the Glands tumefied, the nervous Tremors ſpoiled or interrupted.

To attenuate the Blood and Juices, to render them fit for Circulation and Secretion, by deſtroying their Viſcidity and Sizineſs, Mercurial Preparations are wonderfully calculated: Their Weight, Smalneſs, and Sphericity, carry them through the ſlendereſt Tubes. Hence we ſee Æthiops, the Cinnabars, or Silver-water, are ſerviceable in Ulcers, Inflammations, and cutaneous Diſtempers, by paſſing through the whole Habit, as appears from their ſoiling the richeſt Metals in the Pocket. The component Particles of pure Mercury are extremely minute, equal, and perfectly ſpherical; the Weight of the Mercury to the

Weight of the Blood, as 1032 to 14593: And if we ſuppoſe a Concretion generated in any Artery, which is thereby rendered perfectly impervious, the ponderous Fluid remaining here till freſh Supplies have nearly filled the permeable Part of the Canal, the *Momentum* will be the ſame, as if the whole Tube had been filled with Mercury. But, ſuppoſing, as Dr. *Cheyne* has demonſtrated, the *Momentum* of the Blood aſſiſted by a reaſonable Quantity of Mercurial Globules, abſtracted from the Advantages of an increaſed Velocity, or Frequency of the Pulſe, be to the unaſſiſted *Momentum* of the Blood as 4000: 3, it is eaſy to ſee, if the Canals are abraded by the acrimonious Fluids with this additional Impulſe, how they may be ruptured, or conſiderably damaged; or I know not whether or no it is poſſible, that the Mercurial

Globules attracting Salts, abounding in ſome Conſtitutions, which now being little Balls ſtuck round with Razors or Lancets, rend, wound, and tear the ſmalleſt Arteries; or it is poſſible, that the Globules may paſs through the Axis of the Canal, and leave, for ſome conſiderable Time at leaſt, the Sides ſtill plaſter'd with ſome adheſive, ſcorbutic Matter; whether thus, or no, I ſhall not contend; but it is certain, that there are ſeveral ſcorbutic Patients, that have long perſiſted in the Uſe of Mercurials, and have received little Benefit. I remember a Gentleman, who had taken theſe Medicines in all Forms and Doſes, preſcribed both in Town, *Bath*, and other Places, by the ableſt Practitioners, without the leaſt Succeſs; but, being luckily adviſed to make uſe of a Decoction of the *Digitalis* *, which he did every Day, till in very little Time a Diſquammation enſued; the Ulcers dry'd up, and his Skin acquired its native Colour and Softneſs; for his whole Body was cover'd with one leprous Scab, except where corroded with painful Ulcers. Such Medicines and Regimen had been tried as were thought to correſpond with his Species of the Scurvy, which was by ſome taken for the *Lepra Græcorum.*

---

* Purpurea J. B. (*vulgarly* Fox-glove).

I have omitted the uſual Diſtinctions in this Diſeaſe of hot, cold, acid, or alkeli, having obſerved it to ſucceed promiſcuouſly*. Its Operation is ſtrongly emetic, or cathartic: A Spoonful or two of the Juice, or ſix or ſeven Spoonfuls of the Decoction, a Handful of Leaves to a Quart of Water: It creates a laſting and almoſt inſupportable *Nauſea*, by

---

* I have been confirm'd in this Opinion by Mr. *Sh——at*, of *Covent-Garden*, a Gentleman of great Worth and Ingenuity.

by no means to be ventured on in tender Habits: In the Taſte there is nothing promiſing *; and, as an Emetick, there are ſeveral more powerful. In hereditary *ſcrophulous* or *ſcorbutic* Obſtructions, it has been adminiſtred with Succeſs.

Whether, or when, there may be an Infuſion of a ſelf-motive, ſelf-active, cogitative Subſtance into a ſeminal Corpuſcle; or whether it may perform the animal Functions; as Circulation, Secretion, and Perſpiration, analogically in its ſpermatic State, ſeems infinitely beyond the Limits of human Knowledge. In Sleep, Debauches, and nervous Paroxyſms, the immaterial Subſtance acts very inconſiſtently, or imperceptibly; yet the Eſſence, Energy, or Exiſtence, are unalterably the ſame, the material organic Inſtrument being only injured, and out of Tune. However it be the Animalcule is nouriſh'd, ſupported, or exiſts, a Tincture of parental Juices, of whatever Quality, will ſomehow ſpecifically infect the Atomical Man.

---

* Qui, ut ex ſcriptis patet, nihil aliud poſtulabat ad explorandas remediorum vires, quam guſtus experientiam: neque enim alia mihi videtur quam hiſtrionum eſſe ſubtilitas, quæ ex ſolo equiſeti guſtatu vim eruat hæmorrhagiis inimicam, aut ex plantaginis aquaticæ ſapore deprehendat ſcrobuti hydropiſque antipharmacum. Sodes quot plantæ ſunt ſaporis aſperi, amari, dulcis, quæ, ſaporem ſi excipias, vix quicquam commune habent, quæque aliter quam per liquorem explorata diverſiſſimas oſtendunt qualitates? ———Nonne plurima videmus medicamenta maximam in corpore humano vim habentia, quæ ſi admoves ſenſibus, parum eos certe, aut non omnino afficiunt? Quis tandem odor cui rocellæ [vulgo *Borax*] aut ipecacuanhi? *Simpſon de Re Medica.* See *Martin*'s Eſſay on Elective Purgers.

Then Peace be with the Manes of our worthy Anceſtors, who not only taught, recommended, and enforced the Principles of Virtue and Honour, but whoſe correſponding Lives, Temperance and Moderation, have extended their Exiſtence to the utmoſt Stretch of Mortality, and have given us Bodies capable of the like Duration, under the like Management. But thoſe whom Vice, Lewdneſs, and Immoralities, have injured in the Lumbaginous Condition, thoſe on whom hereditary Ills are unhappily intailed, if not incorrigible Ignorance, Idiotiſm, and Monſtroſity, may render their Senſes, Imagination, and Memory, tolerably ſtrong and lively; may repair the Injuries, in ſome degree, they have received in Miniature, from their crazy, corrupted Parents; and paſs a leſs Portion of human Life in moderate Health and Serenity, if they rigorouſly perſevere in the rules of Temperance, abſtain from Exceſs of Fleſh and Wine, firy, fermented, and infernal Liquors.

A ſoft, oily, aqueous, and balſamic Food, will not only free the Body from lunatic, ſcrophulous, and hereditary Diſorders, obſtinate, and incurable by any other Means, but to thoſe whom Diſeaſes, Debauches and Accidents have rendered gloomy and unthinking, will impart Flaſhes of Imagination, exquiſitely delightful, an unexperienced Clearneſs in diſtinguiſhing, and a wonderful Facility, Readineſs, and Pleaſure, in all intellectual Operations.

Not only the *Eſſenes* among the *Jews*, the Solitaries among the *Chriſtians*, or others whom unnatural Perſecutions, or a philoſophic Contempt of the World, had forced into Woods, Wilds, and Deſerts, have ſubſiſted on Bread, and pure Element to an unuſual Time; but among ourſelves a coarſe vegetable Diet has reach'd an hundred and fifty Years. In all Ages and Profeſſions we have Inſtances of great Men, whoſe Superiority of Parts, Attention, and Depth of Thought, have been vaſtly aſſiſted by extreme Temperance.

Thus the immortal *Newton*, upon applying himſelf to the Inveſtigation of the Theory of Light and Colours, in order to quicken his Faculties, and fix his Attention, confined himſelf to Bread, Wine, and Water, taken only upon a Depreſſion of Spirits.

The Nervous and Hypochondriac, who, as *Cheyne* ſays, are born *Genii*, Lawgivers, and Philoſophers, are under an abſolute Neceſſity to uſe this Regimen: The attracting, concreting, corroding Quality of animal Salts, and *Indian* Spices, will preſently unharmonize the nervous Tremors, and Oſcillations; deſtroy the delicate Texture of the Solids, and healthful Coheſions of the Fluids. This Regimen will certainly refine, and conſiderably improve, the groſſeſt Intellects; and to this, in ſome meaſure, abſtracted from numberleſs other Advantages, the Schemers and Projectors have owed their Fortunes, Stateſmen their ſucceſsful Negotiations, and Generals their never-fading Laurels.

But, next to the *Author of Life and Immortality, brought to Light by the Goſpel,* we owe an eternal Eſteem and Reverence to the divine *Pythagoras*; not only becauſe the very Nature of his Inſtitutions guarded innocent Animals from the cruel Hand of unnatural Luxury; by calming the irregular and diſorderly Paſſions, lay the Foundation of univerſal Benevolence and Humanity, and made the moral Tyes more viſible, convincing and obligatory; but alſo becauſe his ſacred Laws render Life long, ſerene, and comfortable, ſecured againſt all tedious and torturing Indiſpoſitions, and even againſt Death itſelf, our Diſſolution being without Pain and Struggle. “Irri-“deat ſi quis vult; plus tamen “apud me valebit *vera ratio*, quam “vulgi opinio. *Cicer.*

Application to other Studies, want of proper Leiſure, and a Diveſtment of almoſt every neceſſary Advantage, might juſtly plead in favour of my Inaccuracy; but as theſe are moſtly eſteemed idle Pretences, on that account I expect little Indulgence. And as I have experienced, neither Youth, Innocence, nor the ſtricteſt Integrity, are ſufficient Warranty againſt Scandal and Aſperſion; as I have obſerved ſome of the greateſt Men now living treated with Contempt and Ignominy, and an univerſal Defection from Religion and Virtue; it's difficult to ſuppoſe whatever has the leaſt viſible Signature of Merit, ſhould be generally received with Kindneſs and Civility, againſt this there is no *Aſylum*, no human Security. But I own, as to myſelf, the Satisfaction ariſing from your ſingle Approbation, of whoſe Virtue and Humanity, Learning and Generoſity, I have conceived the moſt ſublime and exalted Ideas, will infinitely outweigh the malicious Inſinuations, or ſtupid Ridicule, of weak, ignorant, and ill-deſigning Men.

I am,

With the profoundeſt Reſpect,

Your moſt Obedient,

Humble Servant

E---d L--tt--n.

Erratum. In p. 17, del. l. 19.

Pamphlets lately Publiſhed.

A Survey of the Lord *High-Steward* of *England* his Office, Dignity, and Juriſdiction; particularly the Manner of arraigning a Peer, indicted of Treaſon or Felony.

In a Letter to the Lords in the Tower.

[Price One Shilling.]

The Genuine Trial of Dr. *Noſmoth*, a Phyſician in *Pekin*; for the Murder of the *Mandarin Tonwin*, Treaſurer to the Army of the Emperor of *China*, before the great Council of *Mandarines*. Taken in Short-Hand by the Linguiſt of the *Engliſh* Factory. Price Six-Pence.

Remarks upon a Letter (juſt made publick) on certain Points of the laſt Importance to theſe Nations. Addreſſed to his Grace the Duke of *Newcaſtle*. In a Letter to the Author of that Pamphlet. Price Six-Pence.

The Free and Impartial Examiner: Being a Candid Inquiry into the Cauſes of our preſent melancholy Situation, with regard both to *Domeſtick* and *Foreign* Affairs. Price One Shilling.

Hanoverian Politicks: In a Letter from a Gentleman at the Court of *Hanover*, to his Friend in *England*, concerning the preſent Poſture of Affairs on the *Continent*.